

Title (en)
TOROIDAL INTERNAL COMBUSTION ENGINE

Title (de)
TOROIDFÖRMIGE BRENNKRAFTMASCHINE

Title (fr)
MOTEUR A COMBUSTION INTERNE TOROIDAL

Publication
EP 1654449 A4 20070328 (EN)

Application
EP 04778844 A 20040722

Priority
• US 2004023520 W 20040722
• US 62431003 A 20030722

Abstract (en)
[origin: US2005016493A1] Toroidal internal combustion engine comprising two concentric engine rings. Intake valves are assembled in two faces of one set of pistons and exhaust valves in two faces of the second set of pistons. The intake-valve pistons are fixedly attached to one of the engine rings and the exhaust-valve pistons to the other engine ring. The face of one intake-valve piston and the face of one adjacent exhaust-valve piston form boundaries of an engine chamber. Combustion forces on the piston faces force the two concentric engine rings to counter-rotate. The intake-valve piston and the adjacent exhaust-valve piston sweep the same chamber volume at different strokes of the engine cycle. The engine is constructed of CRC material and mounted on a central shaft, with the intake manifold and the exhaust manifold mounted on each side of the engine, providing a lightweight, self-lubricating, highly fuel efficient, and dynamically balanced engine.

IPC 8 full level
F01C 9/00 (2006.01); **F02B 53/00** (2006.01)

CPC (source: EP US)
F01C 9/002 (2013.01 - EP US); **F02B 53/00** (2013.01 - EP US); **F02B 2730/03** (2013.01 - EP US)

Citation (search report)
• [XA] US 3909162 A 19750930 - NUTKU ATA
• [A] FR 787880 A 19350930
• [A] US 6446595 B1 20020910 - SAKITA MASAMI [US]
• See references of WO 2005010328A2

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
US 2005016493 A1 20050127; US 6880494 B2 20050419; BR PI0412274 A 20060919; CA 2533496 A1 20050203; CA 2533496 C 20120612; EP 1654449 A2 20060510; EP 1654449 A4 20070328; JP 2006528303 A 20061214; JP 2011102591 A 20110526; WO 2005010328 A2 20050203; WO 2005010328 A3 20050623

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